

# ORGANIZATIONAL WORK INSTRUCTION

## Coordination and Execution of Pre- College and Post-Secondary Education Outreach Programs

### CD60 MSFC Education Programs Department

## Revision E

**APPROVING  
AUTHORITY**

NAME

TITLE

ORG

DATE

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Manager

CD60

August 29, 2002

CHECK THE MASTER LIST-  
VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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## DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
BASELINE	N/A	8-20-99	BASELINE DOCUMENT
REVISION	A	1-21-00	This revision cancels and supersedes the following OWI: CD60-OWI-002, Coordination and Execution of Pre-College and Post-Secondary Education Outreach Programs, CD60 MSFC Education Programs Department
REVISION	B	2-24-00	This revision cancels and supersedes the following OWI: CD60-OWI-002, Revision A, Coordination and Execution of Pre-College and Post-Secondary Education Outreach Programs, CD60, MSFC Education Programs Department
REVISION	C	10-10-00	This revision cancels and supersedes the following OWI: CD60-OWI-002, Revision B, Coordination and Execution of Pre-College and Post-Secondary Education Outreach Programs
REVISION	D	3-6-02	This revision cancels and supersedes the following OWI: CD60-OWI-002, Revision C, Coordination and Execution of Pre-College and Post-Secondary Education Outreach Programs, CD60, MSFC Education Programs Department
REVISION	E	8-29-02	This revision cancels and supersedes the following OWI: CD60-OWI-002, Revision D, Coordination and Execution of Pre-College and Post-Secondary Education Outreach Programs, CD60, MSFC Education Programs Department

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**1. PURPOSE:** The purpose of this instruction is to document the process by which the Education Programs Department (EPD) conducts business. This instruction establishes the procedures and responsibilities performed by the EPD that relate to the coordination and execution of pre-college and post-secondary education outreach programs involving Marshall Center personnel and/or facilities and resources. This instruction forms a part of the MSFC Quality Management System (QMS) as defined by the MSFC Management Manual (MMM), MPD 1280.1

**2. APPLICABILITY:** The procedure applies to those in-scope activities under the cognizance of the EPD, which fall into four broad categories:

1. Pre-College Education (Appendix A)
2. Higher Education (Appendix B)
3. Educational Technology (Appendix C)
4. Educational Alliances (Appendix D)

**3. APPLICABLE DOCUMENTS:** Use current Revisions unless there is overriding authority.

NPD 1000.1	NASA Strategic Plan
NPG 1000 .2	NASA Strategic Management Handbook
NPD 1387.2	Use, Control, and Loan of Lunar Samples for Public and Educational Purposes
NPD 1392.1	Conduct of NASA's External Education Program
NPD 3713.2	Federal Equal Opportunity Programs of NASA
Exec. Order 12999	Education Technology: Ensuring Opportunity for All Children in the Next Century
Exec. Order 12876	Historically Black Colleges and Universities
Exec. Order 12900	Educational Excellence for Hispanic Americans
Exec. Order 13021	Tribal Colleges and Universities
EP-1998-12-383-HQ	NASA Implementation Plan for Education
MWI 1520.1	Visual Aid, Graphic, and Publication Production Services

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MPD 2210.1            Documentation Input and Output of the MSFC Documentation Repository

MPG 2220.1            Scientific and Technical Publications

MWI 5113.1            Credit Card Operating Procedures

MPG 1280.6            Internal Quality Audits

MPG 3410.1            Training

MPG 7120.1            Program/Project Planning

Marshall Space Flight Center Strategic Implementation Plan

#### 4. DEFINITIONS:

CaER: Customer and Employee Relations Directorate -- the umbrella organization at MSFC in which EPD is located.

EDCATS: The Education Computer Aided Tracking System -- also called the NASA Education Evaluation System

EPD - Education Programs Department/CD60

EPD Master List: The ISO 9000 Master Document List at the organizational level lists the EPD's OWIs; relevant letters, emails and forms; and applicable documents listed in Section 2 of this OWI. EPD processes and procedures defined in this OWI will be compliant with the items on the Master List.

MSFC: The NASA Marshall Space Flight Center

N/A: Not Applicable

OWI: Organizational Work Instruction -- Level 4 document in the MSFC QMS.

QS: Quality System

QR: Quality Record: These are documents maintained to demonstrate conformance to specified requirements and the effective operation of the MSFC QMS.

QRN: Quality Record Number

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Team: Four teams of individuals within the Education Programs Department are responsible for the following general areas of activity: Pre-College Education, Higher Education, Educational Technology, and Educational Alliances.

Team Lead: The team member appointed by the Education Programs Department manager to coordinate team activities.

## 5. INSTRUCTIONS

Paragraphs 5.1 - 5.20 below address this OWI's response to each of the applicable ISO elements. All EPD activities covered by this OWI follow the processes shown in Appendices A-E. Important applicable documents which further control this process include NPD 1392.1 (Conduct of NASA's External Education Program).

5.1 Management Responsibility. The EPD Manager will ensure adequacy and implementation of this OWI, and will, as a minimum, conduct semi-annual management reviews to ensure the continuing suitability and effectiveness of the EPD quality system in satisfying applicable elements of the MSFC Quality Management System and objectives specified in MSFC-MQM. Data provided for these reviews may include the following:

1. Changes in the EPD process/procedure
2. Results of internal audits and external audits
3. Customer feedback relative to quality system effectiveness
4. Effectiveness of the corrective and preventive action system (EDCATS)
5. Actions from previous management reviews
6. Any quality system issues
7. Potential updates to the quality system

5.2 Quality System. The Education Programs Department maintains the organizational structure, procedures, processes, and resources needed to implement quality management, as required by MPG 7120.1 (Program/Project Planning).

5.3 Contract Review - The Education Programs Department follows procedures established in MPG 7120.1 (Program Project Planning).

5.5 Document and Data Control – Document control and revision is accomplished via CD60-OWI-001. That instruction defines the process for revising both OWI-001 and OWI-002. In addition, the institutional-type records custodian will maintain a master list of these OWIs and applicable documentation.

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5.6 Purchasing – The Education Programs Department follows procedures established in MWI 5113.1 (Credit Card Operating Procedures).

5.14 Corrective and Preventive Action - As required by the NASA Implementation Plan for Education 1999 - 2003, the Education Programs Department teams utilize the EDCATS program evaluation system to identify and implement corrective and preventive actions. A description of the EDCATS process can be found in the “NASA Education Programs Framework and Evaluation – White Paper” document at: <http://ehb2.gsfc.nasa.gov/edcats/>

5.16 Control of Quality Records. The EDCATS program evaluation system is the repository of all quality records related to Education Programs Department programs. These quality records will be retained in accordance with NPG 1441.1 (NASA Records Retention Schedules) under series 1390, Educational Programs.

5.17 Internal Quality Audits - Internal audits will be conducted in accordance with the procedure given in MPG 1280.1

5.18 Training - Procedures established in MPG 3410.1 (Training) as expanded below will be followed by the EPD.

5.18.1 An employee shall be considered qualified to fill his/her initial position when the individual is hired and successfully completes the one-year probationary period. Further, an employee’s qualifications to fulfill increased responsibilities within the same organization shall be determined by the individual’s supervisor based upon the employee’s experience and acceptable performance and the supervisor’s judgment of the employee’s capabilities.

5.18.2 Any necessary personnel training required to perform the EPD functions and conform to the requirements of the MSFC QMS will be provided by the employee’s supervisor in accordance with the position description. This training includes the ISO overview training provided by the CD20/E&ODD and is required of every MSFC employee.

5.18.3 Upon employee completion of required training, a record of successful completion is maintained in the Marshall Center's ADMINSTAR online database. When required, individual EPD personnel retrieve their training records via ADMINSTAR.

## 6. NOTES: N/A

## 7. SAFETY PRECAUTIONS AND WARNING NOTES: N/A

8. **APPENDICES, DATA, REPORTS, AND FORMS:** There are four major core program types: detailed lists are included in Appendices A through D.

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Appendix A: Pre-College Education  
Appendix B: Higher Education  
Appendix C: Educational Technology  
Appendix D: Educational Alliances

**9. RECORDS N/A**

**10. TOOLS, EQUIPMENT, AND MATERIALS: N/A**

**11. PERSONNEL TRAINING AND CERTIFICATION:** See section 5.18

**12. FLOW DIAGRAM:** See Appendix E

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## Appendix A

### Pre-College Education

The Pre-College Education Team manages and/or supports a number of education outreach programs that serve educators and students from Kindergarten through twelfth grade. These programs include, but are not limited to, the following:

1. NASA Educational Workshop (NEW)
2. Summer High School Apprenticeship Research Program (SHARP)
3. Aerospace Education Services Program (AESP)
4. Participation in National and Regional Education Conferences
5. Tennessee Space Week
6. Alabama Space Week
7. NASA Student Involvement Program (NSIP)
8. National Engineers Week
9. NASA Earth-to-Orbit (ETO) Design Challenges
10. Educator Resource Center Network (ERCN)
11. Project LASER Volunteer Database
12. Publications Distribution
13. Science and Engineering Fairs
14. Career Days
15. Special Tours of the Marshall Center



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## Appendix B

### Higher Education

The Higher Education Team manages and/or supports a number of education outreach programs that serve researchers, educators and students from colleges and universities throughout the country. These programs and services include, but are not limited to, the following:

1. National Research Council (NRC) Resident Research Associateships (RRA) Program
2. American Society for Engineering Education (ASEE) NASA Faculty Fellowship Program (NFFP)
3. Experimental Program to Stimulate Competitive Research (EPSCoR)
4. Undergraduate Student Research Program (USRP)
5. Graduate Student Researchers Program (GSRP)
6. Space Grant Colleges and Universities
7. The Great Moonbuggy Race
8. Tours of MSFC for University Groups

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## Appendix C

### Educational Technology

The Educational Technology Team manages and/or supports a number of education outreach programs that serve educators, students, and life-long learners at all levels. These programs include, but are not limited to, the following:

1. NASA Education Home Page
2. NASA Spacelink
3. Alumni Exchange (ALEX)
4. sciLINKS (Online textbook support activity)
5. Computers for Learning (Transfer of excess government computer equipment to schools)
6. Education Programs Department Website
7. NASA Education Evaluation System (EDCATS)
8. Educational Television/Distance Learning
9. Education Programs Department Database (EPOD)
10. EarthKam (Online remote sensing activity for students)
11. NASA Central Operation of Resources for Educators (CORE) Website
12. MSFC Learning Technologies Project (LTP)
13. NASA CONNECT (Instructional Television Series)

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## Appendix D

### Educational Alliances

The Educational Alliances Team supports a number of alliances with outside educational organizations that serve educators, students, and life long learners at all levels. These programs include, but are not limited to, the following:

1. U.S. Space & Rocket Center Underserved Space Camp Program
2. International Space Camp/Teachers of the Year
3. Challenger Centers
4. North Alabama Science Center (Sci-Quest)
5. FIRST Robotics Competition
6. Huntsville/Madison County Chamber of Commerce Business and Education Success Team (BEST) Hands on Work Experience (HOWE)
7. Global Learning and Observations to Benefit the Environment (GLOBE)
8. American Education Week (AEW)
9. Linking Leaders Initiative
10. Student Launch Initiative (SLI)
11. Spotlight-On-Science (S.O.S.)
12. Boy Scout of America Venturing Crew
13. Madison County Scholars Bowl
14. NEW Informal Program

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## Appendix E

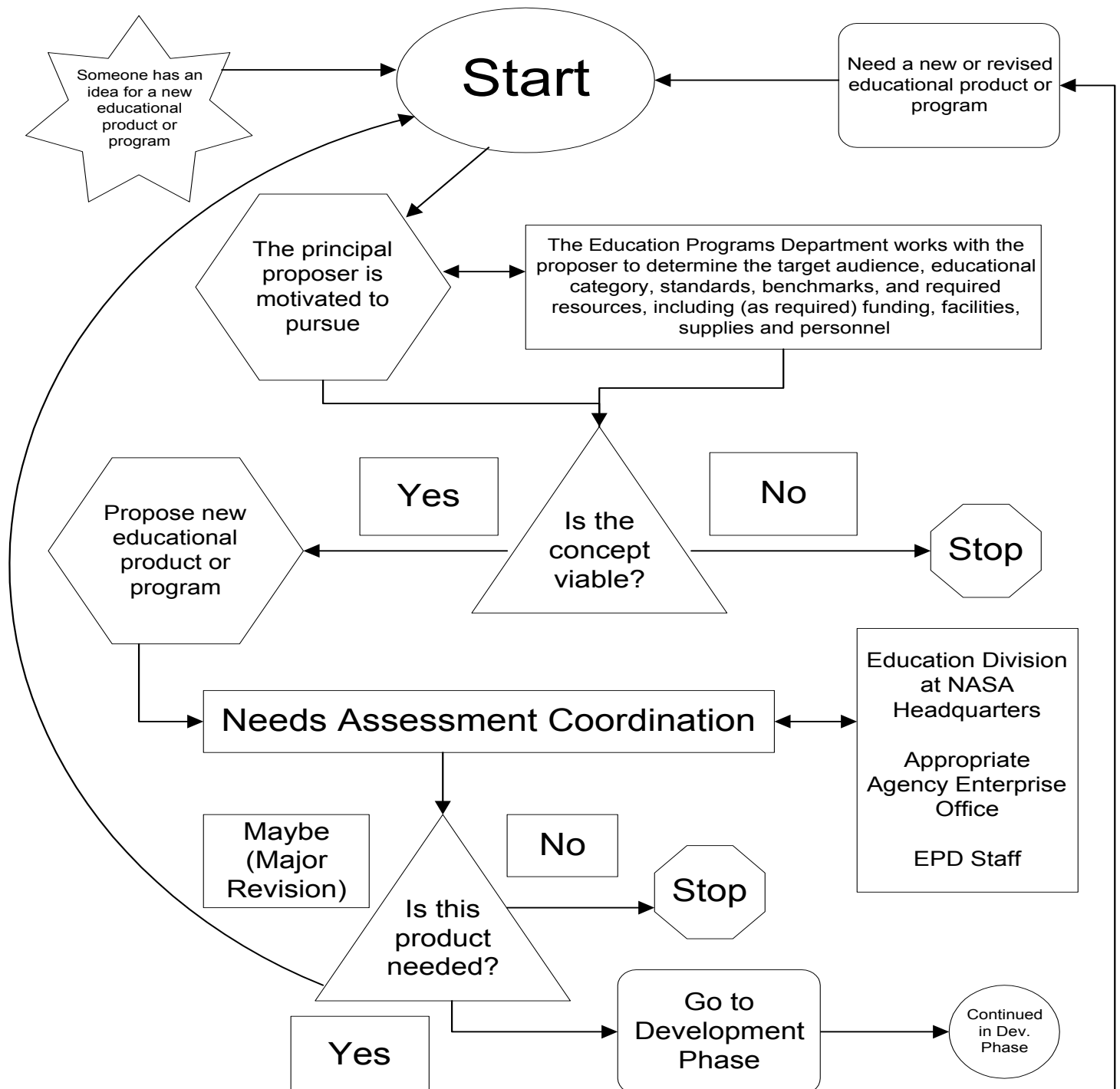
The following four-page flow chart describes the general process for producing and managing all EPD products and programs on a case-by-case basis.

Like the process itself, the flow chart is divided into four distinct phases:

1. Initiation Phase
2. Development Phase
3. Production Phase
4. Implementation Phase

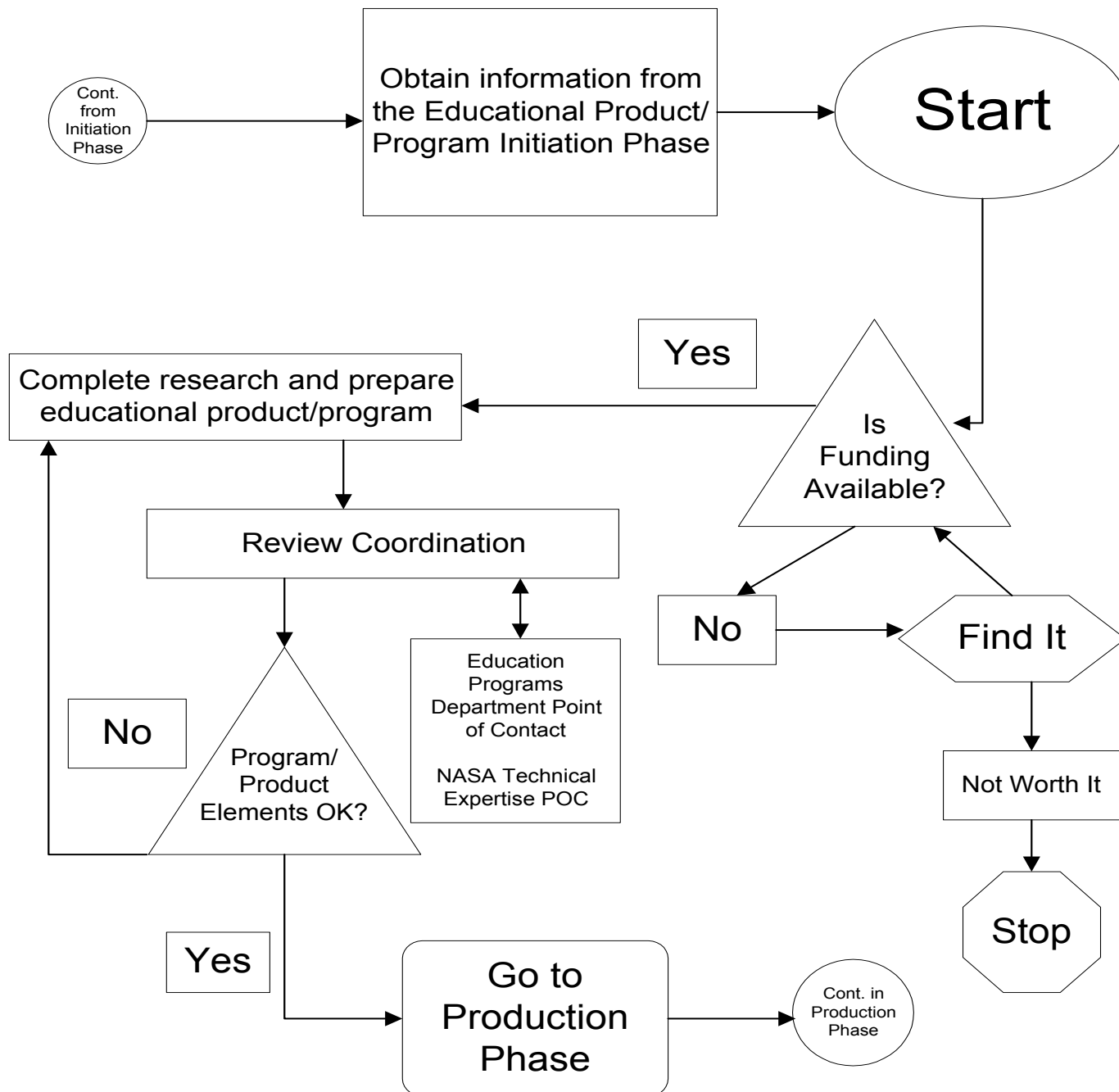
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## Educational Product/Program Initiation Phase



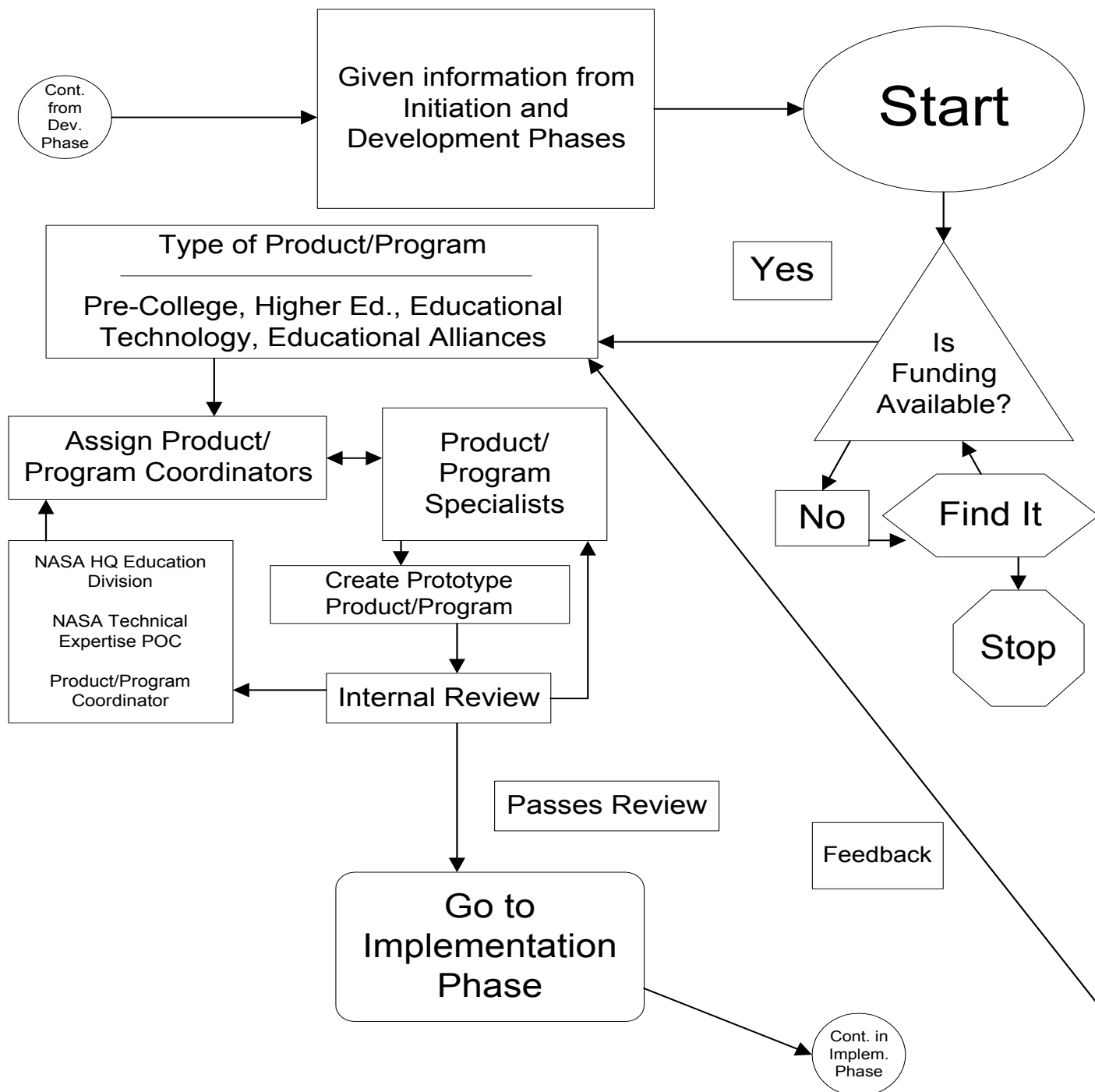
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## Educational Product/Program Development Phase



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## Educational Product/Program Production Phase



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## Educational Product/Program Implementation Phase

